UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R036XA015NM

Site Name: Shallow Savannah

Precipitation or Climate Zone: 9 to 14 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on knolls and ridges, often times associated with sandstone or volcanic tuff mesas and plateaus. It may occur in association with rock ledges and surface outcrops. Slopes range from 5 to 25 percent. Elevation ranges from 6,200 to 7,500 feet above sea level.

Land Form:

1. Ridge
2. Mesa
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	6,200	7,500
Slope (percent)	5	25
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	N/A	N/A
Duration	N/A	N/A

Ponding:	**Minimum**	**Maximum**
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

Mean annual precipitation varies from 9 to 14 inches. Deviations of 4 inches or more are quite common. Approximately 60 percent of the precipitation is received during the native plant growth period, April through September. During July, August and September 4 to 6 inches of precipitation influence the presence and production of warm-season plants. Fall and spring moisture is conducive to the growth of cool-season herbaceous plants. Maximum shrub growth also occurs during this time. Summer precipitation is characterized by brief, localized thunderstorms. Winter moisture usually occurs as snow or light rain.

Mean annual temperature varies from 64 degrees F in July to 21 degrees F in January. The maximum is near 100 degrees F. The minimum is near 40 degrees F. The average last killing frost in the spring is around mid-May. The first killing frost in the fall is late September or early October. The frost-free period is approximately 120 to 140 days, but freezing temperatures have been recorded for every month except July and August. Temperatures are generally conducive for herbaceous plant growth from April through September.

Wind velocities are relatively light most of the year with stronger winds occurring in spring and early summer. These stronger winds, which may exceed 25 miles per hour, increase transpiration rates of plants and rapidly dry the soil surface. Also, small soil particles are often displaced by the stronger winds, which can result in structural damage to native plants, particularly young seedlings.

Climate data was obtained from the WCCR web site. Using 50% probabilities for freeze-free and frost-free seasons at 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	**Maximum**
Frost-free period (days):	104	119
Freeze-free period (days):	134	145
Mean annual precipitation (inches):	9	14

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.52	1.79	7.6	45.6
February	.43	1.56	10.7	50.4
March	.67	1.92	16.8	56.8
April	.52	1.26	22.7	66.0
May	.62	1.26	28.8	75.5
June	.49	1.21	35.1	85.8
July	1.54	3.41	42.1	88.9
August	1.86	3.72	41.8	85.8
September	1.08	1.86	34,6	78.8
October	1.01	1.86	25.3	68.8
November	.71	1.60	16.2	56.0
December	.56	1.49	9.3	47.0

Climate Stations:

				Period			
Station ID	292241	Location	Cuba, NM	From:	01/01/14	To:	12/31/01
Station ID	293422	Location	Gallup FAA AP, NM	From:	01/01/21	To:	12/31/01

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:
N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils associated with this site are generally shallow to very shallow over sandstone, shale, or volcanic tuff. Surface textures are typically sandy loams, gravelly fine sand loams, very fine sandy loams or loams. They may be cobbly or stony. Permeability is moderate too high, available water-holding capacity is low to moderate, and runoff is medium.

Parent Material Kind: Alluvium
Parent Material Origin: Mixed

Surface Texture:

1. Sandy loam
2. Gravelly fine sandy loam
3. Very fine sandy loam 4. Loam 5. Gravelly loam

Surface Texture Modifier:

1. Gravel
2. Stone
3. Cobble

Subsurface Texture Group: Clayey

Surface Fragments <=3" (% Cover): 15 to 35

Surface Fragments >3" (% Cover): 15 to 35

Subsurface Fragments <=3" (%Volume): 15 to 35

Subsurface Fragments >=3" (%Volume): 15 to 35

	Minimum	**Maximum**
Drainage Class:	Well	Somewhat excessively
Permeability Class:	Very slow	Moderately rapid
Depth (inches):	<10	20
Electrical Conductivity (mmhos/cm):	0.00	16.00
Sodium Absorption Ratio:	0.00	0.00
Soil Reaction (1:1 Water):	6.6	8.4
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	3	9
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
This is a grass-shrub mixture having a savannah type overstory of juniper and pinyon. Forbs are a relatively minor component on this site except during spring emergence.

Canopy Cover:	
Trees, shrubs and half-shrubs	20 %
Ground Cover (Aveage Percent of Surface Area).	
Grasses & Forbs	22
Bare ground	48
Surface gravel	10
Surface cobble and stone	10
Litter (percent)	10
Litter (average depth in cm.)	1.5

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	350	455	560
Forb	20	26	32
Tree/Shrub/Vine	100	130	160
Lichen			
Moss			
Microbiotic Crusts			
Total	500	650	800

Plant Community Composition and Group Annual Production: Plant species are grouped by annual production **not** by functional groups.

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	HECO26 HENE5	Needleandthread New Mexico Feathergrass	65 – 98	65 – 98
2	BOGR2 PLJA	Blue Grama Galleta	65 – 98	65 – 98
3	ACHY	Indian Ricegrass	33 – 65	33 – 65
4	PASM	Western Wheatgrass	33 – 65	33 – 65
5	POFE KOMA	Muttongrass Prairie Junegrass	20 – 52	20 – 52
6	SCSC BOCU	Little Bluestem Sideoats Grama	20 – 33	20 – 33
7	SPAI	Alkali Sacaton	20 – 33	20 – 33
8	ELEL5	Bottlebrush Squirreltail	20 – 33	20 – 33
9	LYPH SPORO PIFI	Wolftail Dropseed spp. Pinyon Ricegrass	20 – 33	20 – 33
10	2GRAM	Other Grasses	20 – 46	20 – 46

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	ERIOG ARFR4 CACO17 ERIGE2 2FORBS	Wildbuckwheat spp. Fringed Sagewort Indian Paintbrush Fleabane spp. Other Forbs	20 – 33	20 – 33

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
12	ATCA2 KRLA2	Fourwing Saltbush Winterfat	33 – 65	33 – 65
13	ARTR2 ARBI3	Big Sagebrush Bigelow Sagebrush	20 – 33	20 – 33
14	ERNAN5 TECA2	Rubber Rabbitbrush Spineless Horsebrush	7 – 20	7 – 20
15	PUME PUTR2 CEMOP	Cliffrose Antelope Bitterbrush Hairy Mountainmahogany	7 – 20	7 – 20
16	JUMO JUSC2 PIED	Oneseed Juniper Rocky Mountain Juniper Pinyon Pine	33 – 98	33 – 98
17	2SD	Other Shrubs	7 – 20	7 – 20

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other species that could appear include: letterman needlegrass, littleseed ricegrass, spike muhly, hairy grama, New Mexico muhly, mountain muhly, threeawn spp., longleaf ephedra, cholla, soapweed yucca, skunkbush sumac, sand sagebrush, oak spp., broom snakeweed, threadleaf groundsel, pingue, locoweed spp., globemallow spp., and ragweed.

Plant Growth Curves

Growth Curve ID **0015NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **A mixed shrub-grassland with juniper/pinyon overstory and a minor forb component.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	10	10	25	30	12	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitat which support a resident animal community characterized by mule deer, bobcat, porcupine, desert cottontail, white-tailed antelope, squirrel, Stephen's woodrat, cliff chipmunk, pinyon mouse, great horned owl, red-tailed hawk, plains titmouse, scrubjay, northern plateau lizard, collared lizard and western diamondback rattlesnake.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	Hydrologic Group
Fronton	D
Travessilla	D
Vessilla	D

Recreational Uses:

This site is well adapted to hiking, horseback riding, hunting and camping. Although scenic, this site lacks a magnificent beauty.

Wood Products:

This site is not a major source of wood products although some may be obtained for fuel wood and fence posts. Due to the importance of the trees in breaking up the parent material during the soil formation process, only selected trees should be removed from this site.

Other Products:

Grazing:

Approximately 75 percent of the vegetation produced on this site are suitable for grazing or browsing by domestic livestock and wildlife. Grazing distribution is generally not a problem if adequate waterings are properly located. Areas of rock outcrop associated with this site may interfere with uniform grazing distribution. Trail construction and the use of salt help to improve distribution.

Continuous grazing leads to a repetitive, selective grazing of the most desirable species which reduces their vigor and productivity. The result is a deterioration of the potential plant community. This deterioration is indicated by a decrease in needleandthread, New Mexico feathergrass, Indian ricegrass, muttongrass, western wheatgrass and fourwing saltbush. Species that increase include blue grama, galleta, dropseed spp., wolftail, threeawn spp., big sagebrush and rubber rabbitbrush. A planned grazing system, which prevents the repetitive grazing of selected species and allows for periodic replenishment of carbohydrates in the roots, is desirable.

In addition to domestic livestock, deer, elk, pronghorn antelope, small mammals and birds also use this site.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	3.7 – 5.0
75 – 51	4.9 – 7.4
50 – 26	7.3 – 15.2
25 – 0	15.2+

Plant Part	Code	Species Preference	Code
Stems	**S**	**None Selected**	**NS**
Leaves	**L**	**Preferred**	**P**
Flowers	**F**	**Desirable**	**D**
Fruits/Seeds	**F/S**	**Undesirable**	**U**
Entire Plant	**EP**	**Not Consumed**	**NC**
Underground Parts	**UP**	**Emergency**	**E**
		Toxic	**T**

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	P	P	P	P	P	P	P
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	P	P	P	P	D	D	D	D	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	P	D	D	D	D	D	D	P
Winterfat	Krascheninnikovia lanata	L/S	D	D	P	P	P	P	P	P	D	D	D	D
Bigelow Sagebrush	Artemisia bigelovii	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

Animal Kind: Wildlife
Animal Type: Deer

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Antelope Bitterbrush	Purshia tridentata	L/S	P	P	P	P	P	P	P	P	P	P	P	P
Hairy Mountainmahogany	Cercocarpus montanus	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Bigelow Sagebrush	Artemisia bigelovii	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: _____

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the New Mexico and Arizona Plateaus and Mesas 36 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveysMcKinley & Sandoval

Characteristic Soils Are:	
Fronton	Travessilla
Vessilla	
Other Soils included are:	

Site Description Approval:

{PRIVATE}Author	Date	Approval	Date
Don Sylvester		Don Sylvester	

Site Description Revision:

{PRIVATE}Author	Date	Approval	Date
Elizabeth Wright	08/15/02	George Chavez	09/11/02